Renewable Energy Working Group Meeting Summary
September 9, 2008
Forrestal Building: Washington, D.C.
U.S. Department of Energy (DOE)

Executive Summary

A number of questions arose at a previous REWG meeting on the goals and reporting for federal use of renewable energy as specified in the Energy Policy Act of 2005 (EPAct 2005), Executive Order (E.O.) 13423, and the *Renewable Energy Requirement Guidance for EPAct 2005 and Executive Order 13423*. The September 9, 2008, REWG meeting was designed to follow up on questions that arose in the earlier REWG meeting, to discuss power purchase agreements, to discuss several large renewable energy projects at the National Renewable Energy Laboratory (NREL), to discuss the details of the fiscal year (FY) 2008 Annual Energy Report, and the DOE rulemakings impacting renewable energy.

Extended Summary

Welcome, Introductions
Anne Crawley, FEMP

Anne Crawley announced that on the morning of September 9, 2008, Secretary of Energy Samuel Bodman presided over a ribbon cutting ceremony of a new 205-kilowatt solar power system at DOE's Forrestal Building.

Anne stated that she would like to hold REWG meetings every quarter. The previous meeting had been held on June 10, 2008.

Today, we will hear first about combining Energy Saving Performance Contracts (ESPCs) and Power Purchase Agreements (PPAs) for large-scale renewable energy projects. We will then hear from Bob Westby who will describe four photovoltaic (PV) projects being implemented by NREL under PPAs in Golden, Colorado. We will then hear presentations from two FEMP staff members. Cyrus Nasseri will speak about the Energy Independence and Security Act of 2007 (EISA 2007) rulemaking progress and schedule as it affects renewable energy. We will then hear from Chris Tremper of FEMP on the FY 2008 Annual Energy Report, emphasizing its renewable energy and renewable energy certificates (RECs) aspects. The guidance for the FY 2008 Energy report was distributed a few days before the REWG meeting.

Combining ESPC and PPAs for Large-Scale Renewable Energy Projects
Anne Crawley, FEMP (PDF 488 KB)

Anne Crawley summarized a DOE effort to combine PPAs and ESPCs to support larger renewable energy projects on federal sites that would generate more power than the site consumes. The concept is supported by a provision in EISA 2007 that expands the definition of energy savings to include excess generation from renewable energy or combined heat and power projects at federal facilities. The concept is particularly relevant to agencies like DOE that have facilities with fairly small energy demands but large areas of land, renewable resources, and other infrastructure that could support large-scale renewable energy development.

Specific examples are procurement-sensitive, but DOE is actively pursuing projects under the Transformational Energy Action Management (TEAM) Initiative that could provide precedence for other agencies. DOE is interested in feedback from other agencies that have experience that might be useful, or who are interested in applying what DOE learns.

There were questions concerning the RECs produced by a project like this, and how they could be retained or swapped to allow DOE to count the production toward its renewable energy goal. Because retained or purchased RECs are considered the same as consuming renewable energy, the output of a project that sells excess power to third parties could count toward the renewable energy goal even if it exceeded the energy requirements of the facility as long as the facility retained RECs from the project.

Highlights of NREL PV Projects under the TEAM Initiative
Bob Westby, NREL (PDF 536 KB)

The objective of this presentation is to describe the four PV projects being implemented by NREL under PPAs. These projects support the renewable energy use goals of the TEAM Initiative.

The first project, the Mesa Top PV project, is a 750 kW system that will be operational in December, 2008. The details of the Colorado utility incentive program, the Xcel SolarRewards program, are provided, including a sample SO-REC bid sheet. A diagram of the deal structure depicting revenue flows and an overview of the four involved facilitating agreements (e.g. the PPA, Western/DOE IAA, Easement/Access agreement and the SO-REC agreement) are presented.

The three Phase II PV projects, which include 1.16 MW system at the National Wind Technology Center and on the South Table Mountain campus, 382 kW system at the Field Test Laboratory Building "Boneyard," and a 118 kW system on the roof top of the Science and Technology Facility are described. The Mesa Top PPA process, including the agreement structure, was replicated in developing the PPA for these projects. Proposal evaluation consideration including a discussion of "downward pressure" on state REC markets and electricity price premiums is provided.

Finally, evaluation tools developed by NREL are referenced.

DOE Rulemakings Impacting Renewable Energy
Cyrus Nasseri, FEMP (PDF 104 KB)

Cyrus Nasseri of FEMP presented a summary of three pieces of legislation that have a major impact on renewable energy in the federal sector. Section 109 of EPAct 2005 and Sections 433 and 523 of EISA 2007 were covered.

DOE has developed (for Section 109) or is developing (for Sections 433 and 523) federal rules for implementing the legislative mandates. While Section 109 may not drive much renewable energy activity, Section 433 will definitely drive renewable energy consideration with its requirements to reduce fossil-fuel energy consumption. And Section 523 explicitly requires use of solar hot water heating if life-cycle cost-effective. DOE's rulemakings on Sections 433 and 523 of EISA 2007 will be in the form of full rulemakings, with a notice of proposed rulemaking, a public comment period and public meeting, and a final rule. There will be lots of opportunity for agencies to comment on the rules as they are developed.

FY 2008 Annual Energy Report: Impact on Renewable Energy, RECs
Chris Tremper, FEMP (Excel 112 KB)

Changes in renewable energy reporting for FY 2008 pertain mainly to the purchase of renewable energy and the impact of these purchases on agency performance toward energy intensity reduction goals.

FY 2008 is the first year for phasing out the credit agencies receive toward their reduction goals for purchases of renewable energy. From FY 2008 through FY 2011, the credit will gradually be reduced to zero. Purchases of renewable energy or RECs may only contribute up to 60% of the annual energy reduction goal for FY 2008. Long-term renewable energy or REC purchases of 10 years or more of renewable energy that contribute to the development of new renewable energy resources may only

contribute up to 80% of the annual energy reduction goal for FY 2008. Table 1-6 of the FY 2008 Energy Management Data Report has been modified to accommodate the phase-out by adding a new data entry column to designate regular (short-term) purchases or long-term purchases of 10 or more years.

In another change for FY 2008, Table 1-6 also includes an additional data entry column to separately capture the annual cost of each type of renewable energy purchased for use during FY 2008. Tables 1-1 and 1-2 have been enhanced to automatically break out and appropriately include consumption and costs of renewable energy purchases entered in Table 1-6. This change was made to incorporate the greenhouse gas calculations more easily and to consolidate the reporting of all renewable energy purchase data in Table 1-6. This data is then summed up appropriately in Tables 1-1 and 1-2, rather then subtracted later from the lumped-together totals. RECs do not sum up to Tables 1-1 and 1-2 since they only represent renewable features that can then be attributed to conventional electricity. Credit for REC purchases is considered when calculating emission avoidance.

For reporting the cost of RECs, the intent is to only report attribute premiums. For green power, report the entire cost of the kWh (i.e., for competitive power procurements that are 3% renewable, report the 3% of the total purchase in Table 1-6 along with the proportional cost of the electricity) and this will sum up to Table 1-1 and 1-2 as appropriate. The non-renewable 97% portion of the electricity purchase and costs are entered directly into Table 1.1 or 1.2 as conventional electricity.

Agencies must report the information bulleted below for each type of renewable energy/REC purchase on Table 1-6. It may be necessary to insert additional rows into Table 1-6 to account for every different type of purchase, being mindful of the color-coded rows distinguishing electricity (green), RECs (blue), and non-electric renewable energy (orange) and the darker colored rows for "new" renewable energy and the lighter colored rows for "old" renewable energy. Insert additional rows between the two rows of each color-coded category provided. Data elements required for each purchase include:

- Amount purchased (MWH or Million Btu).
- Annual cost (Thousands of Dollars). The reported cost should correspond with the amount of renewable energy used during the fiscal year, regardless of when the purchase occurred.
- Portion of total purchased from projects on federal or Native American lands. Report this amount in appropriate unit (MWH or Million Btu). This will help determine whether the purchase qualifies for a bonus.
- Purchase term (long-term or regular/short-term). Report whether the renewable energy or REC purchase is a long-term or regular (short-term) purchase (i.e., 1) for long-term purchases of 10 years or more, enter "Long"; 2) for regular, short-term purchases of less than 10 years, enter "Short"). This will ensure that the partial credit toward the energy intensity reduction goal is properly applied.
- End-use category. Report which facility end-use category the credit for the renewable energy purchase or RECs should be applied to (i.e., 1) for goal-subject buildings, enter "Goal"; or 2) for excluded facilities, enter "Excluded"). By entering the category as indicated, the spreadsheet will sum the purchases to the appropriate category, and credit the purchases toward the Btu/Gross Square Feet figures in Tables 1-1, and 1-2.

Self-generated, on-site renewable energy is reported on Table 1-4, the format of which has changed little from last year. Because this energy is not captured in Tables 1-1 or 1-2, it must be reported here to be counted toward the renewable energy goal. Report number of projects and electricity produced by renewable source and according to whether the project was placed in service after January 1, 1999 (New), or placed in service before January 1, 1999 (Old). In addition to the annual electricity produced, report the amount of that electricity that came from projects on federal or Native American lands. Usually this will be the same as the amount produced, but there are cases where agencies have projects that are on private lands (e.g., solar systems that power monitors for water levels in streams or air quality). Energy produced on federal or Native American land and used by an agency qualifies for a bonus.

Also report the number of projects and the amount of non-electric renewable energy produced and used at a federal facility. This renewable energy, however, does not count toward the statutory renewable energy goal. For more information on the renewable energy goal counting methodology, refer to the FEMP Renewable Energy Requirement Guidance for EPACT 2005 and Executive Order 13423 (PDF 540 KB).

Table 1-5, "On-Site Renewable Energy Generation Where RECs are Not Retained by the Government" is necessary to accommodate the renewable energy goal counting methodology which allows agencies to qualify for the on-site generation bonus if they have purchased an equivalent amount of new RECs. Enter the amount of renewable electricity produced or used and the amount qualified to be applied toward the goal will be calculated based on data entered in Table 1-6.

For projects where renewable energy is produced on federal land and RECs are not retained, but that are grandfathered under the renewable guidance (i.e., Nellis AFB PV project), this is reported in Table 1-4. The following note under Table 1-4 clarifies this: "Include projects that did not retain RECs if they qualify under the grandfather clause."

Wrap-Up
Anne Crawley, FEMP

Anne stated that she would like to hold REWG meetings every quarter. The previous meeting had been held on June 10, 2008. She hoped to hold the next REWG meeting in the first or second week of December 2008 on a Tuesday or Wednesday. One of the projects she hopes to have a presentation on is the Air Force PV project at Nellis Air Force Base in Nevada. It is interesting both technically and contractually.

Participants

At the Meeting

- Anne Crawley, FEMP
- Kevin DeGroat, McNeil Technologies
- Mary Heying, Department of Interior (DOI)
- Jim Hoelscher, Antares Group
- Regina Larrabee, Veterans Affairs (VA)
- Jay Paidipati, NavigantConsulting
- Mark Reichhardt, FEMP
- Tansu Sengezener, Pepco Energy Services, Inc.
- Diane Shoaf, United States Postal Service (USPS)
- Bill Stein, Army
- Bill Tayler, Navy
- Paul Volkman, Army

On the Phone

- Joe Bogdan, McGuire Air Force Base (AFB)
- Rick Brown, Lawrence Berkeley Lab (LBL)
- CDR Gordon Delchamps, Indian Health Service
- Mary Heying, DOI
- Karen Curran, Government Services Administration (GSA)
- Melinda Latimer, Golden Field Office
- Scott McCain, REM - Army Installation Management Command
- Barry Miller, REM at McGuire AFB
- CDR Steven Raynor, Indian Health Service

- Bill Rever, BP Solar
- Robi Robichaud, National Renewable Energy Laboratory (NREL)
- Eric Ruffel, CH2M HILL
- Garland Scott, Air Force Air Education and Training Command, Randolph AFB, TX
- Chandra Shah, NREL
- Nick Stecky, REM at Picatinny Arsenal, NJ
- Bob Westby, NREL
- David Zimmerman, Tennessee Valley Authority (TVA)